

***AMENDMENTS TO THE DRAWINGS***

The Applicant has amended drawing Figure 1 of the original application as shown on the attached replacement drawing sheets and described in the following comments.

The Applicants have amended Figure 1 to include a missing element number 146.

**REMARKS**

The Applicant has reviewed the Examiner's Action dated February 8, 2006. The Applicants have amended the drawings and the specification. The Applicants have amended claims 1 - 9, 16 - 18, and 20-28 and cancelled claims 10-15 and 29-34 to overcome the Examiner's rejections. The Applicants hereby provide the following remarks concerning the Examiner's objection to the drawings and rejections of the claims under 35 U.S.C. §102(b), §103(a), and §112 first and second paragraphs.

The Examiner has objected to the drawings under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown of the feature(s) cancelled from the claims(s). No new matter should be entered.

The Examiner states that regarding claim 1 and 21, "a first processor [or first processing means] receiving input data and creating a pixel data stream provided over a first channel and a second channel..." recited on lines 2-3 of claim 1 must be shown. Here, Fig. 1, graphics engine 130 provides a single pixel data stream to the color detector 140, however it does not create a pixel data stream provided over a first channel and a second channel.

The Applicants have amended claims 1 and 21 to claim a symbol generator, a graphics engine, a color detector, a display, and a symbol monitor. The color detector has a red pixel data output, a green pixel data output, and a blue pixel data output. The first and second channel elements are removed from the claims. The Applicants have amended Figure 1 to add reference number 146 for the blue pixel data output.

Regarding claims 14, 15, and 34 there is no figure showing "a fourth channel over which pixel data is provided from the first processor" as recited in line 4 of claim 14 and line 4 of claim 34.

The Applicants have cancelled claims 14, 15, and 34.

The Applicants are submitting a corrected drawing sheet for Figure 1, as described above, in compliance with 37 CFR 1.121(d).

The Examiner has rejected claims 1-15 and 21-34 under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 1-15, and 21-34, claim 1 and claim 21 the Examiner asserts that both include the limitation of a "first processor [or processing means], receiving input data and creating a pixel data stream provided over a first channel and a second channel" on lines 2-3 of both claims. Claims 1 and claim 21 also include the limitation of " a second processor [or processing means] coupled to the first processing means...the second processor computes a derived version of the inputs based on the location information and the symbol information" on lines 6-10 of both claims. The enablement of this claim is questioned because if the symbol generator 110 or the graphics engine 130 are construed to be the first processor, then neither of them are coupled to the second processor 120, nor do they provide a pixel data stream over a first channel and a second channel. If the color detector 140 is construed as the first processor then it does not create a pixel data stream because that is the function of the graphics engine. Therefore, there is no first processor disclosed by the applicant that meets the requirements of claims 1 or 21.

The Applicants have amended claims 1 and 21 to properly claim the invention by claiming symbol generator, a graphics engine, a color detector, a display, and a symbol monitor. The color detector has a red pixel data output, a green pixel data output, and a blue pixel data output. The first and second processors and the first and second channel elements are removed from the claims. With this amendment the Examiner's rejection of claims 1 and 21 under 35 U.S.C. 112, first paragraph, should be overcome.

The Examiner has rejected claim 13 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "the third channel" in line 1. There is insufficient antecedent basis for this limitation in the claim.

The Applicants have cancelled claim 13.

The Examiner has noted to applicant that due to the above rejections under 35 U.S.C. 112, the following rejections are based on the claims as best understood by the Examiner.

The Examiner has rejected claims 1-3, 6-9, 16-20, 21-23, 26-29 under 35 U.S.C. 102(b) as being anticipated by Desmond et al. (US 4,698,785) (hereafter, "Desmond").

Regarding claim 1 and 21, Desmond teaches an information processing system, comprising: a first processor (Fig. 1, the combination of items 18, 36, and 50, and 52 constitute the first processor), receiving input data (Fig. 1, the system input data) and creating a pixel data stream (Fig. 1, see col. 10, lines 20-34, the input variables X, Y, Z connected to the CRT are the pixel data stream) provided over a first channel (Fig. 1, the combination of the lines X, Y, and Z constitute the first channel) and a second channel (Fig. 1, see col. 11, lines 11-15, the combination of lines for X, Y, and Z that are between the CRT and the A/D converters constitute the second channel, and they are provided by the first processor because they carry the same data output from item 50), the first channel providing a signal to affect the output of a pixilated display (Fig. 1, see col. 10, lines 20-34), the second channel including location information and symbol information (Fig. 1, see col. 10; lines 20-34, lines X, Y, and Z which constitute the second channel contain the same location information and symbol information to be used on the CRT); and a second processor (Fig. 1, the combination of items 14, 26, 54, 56, and 58) coupled to the first processor (Fig. 1, the lines for "blank symbol", "display disable", and "symbol flag" couple the first processor to the second processor), the second processor receiving the location information and symbol information from the first processor (Fig. 1, see col. 10, lines 20-34, the lines X, Y, and Z are received from the first processor), and the second processor receiving the input data (Fig. 1, the system input data is also input into the second

processor ), the second processor computes a derived version of the inputs based on the location information and the symbol information (see col. 11, lines 6-28).

The inventions of Desmond and the Applicants are similar and solve a similar problem. However, the Applicants regard the invention of Desmond as prior art. The system of Desmond works with a cathode ray tube (CRT) and as such is a raster system and does not have pixel data or a pixilated display. The Applicants' invention only functions with a pixel type display such as a liquid crystal display (LCD) and will not work with a CRT raster type system. In the Applicants' invention a symbol generator creates a display list containing drawing instructions for a display from aircraft data. A graphics engine uses the drawing instructions to generate pixel data streams. The graphics engine is capable of displaying the three primary colors, red, green, and blue with multiple independent intensities as the streams of pixel data. A color detector passes the red pixel data and the green pixel data to a display such as a heads-up display (HUD) that only requires red and green pixel data. Each critical symbol to be displayed has associated with it an X, Y display position and a unique identifier tag. The blue pixel intensity data from the color detector is used as the unique identifier tag to identify the symbol. A system monitor uses the blue pixel identifier tag and blue pixel X and Y data to compare with actual aircraft data to check for display errors. The Applicants' invention functions with a pixilated type display system. The display system of Desmond is a raster CRT display system. The Applicants have amended claims 1 and 21 to overcome the Examiner's 35 U.S.C. 112 rejections and to further distinguish over Desmond. Claims 1 and 21 are now believed to be allowable.

Regarding claim 2 and 22, the Examiner asserts that Desmond teaches the information processing system wherein the first processor comprises a symbol generator (Fig. 1, item 36).

As discussed above the system of Desmond is for a CRT and does not disclose a pixilated display system. The Applicants have amended claim 2 to claim the symbol generator providing X and Y drawing instructions and a unique

symbol identifier. Claim 22 has been amended to claim blanking a symbol if a miscompare occurs. Claims 2 and 22 are believed to be allowable.

Regarding claim 3 and 23, the Examiner states that Desmond teaches an information processing system wherein the first processor comprises a graphics engine (Fig. 1, the display symbol generator constitutes a graphics engine).

The Applicants have amended claim 3 to claim placing drawing instructions in a blue pixel buffer of the graphics engine. Claim 23 has been amended to claim a blue pixel intensity level providing symbol identification. Neither function is possible in Desmond and claims 3 and 23 are believed to be allowable.

Regarding claim 6 and 26, the Examiner states that Desmond teaches an information processing system wherein the input data comprises aircraft sensor data (see col. 7, lines 57-65).

The Applicants have amended claim 6 to claim using blue pixel intensity to identify a symbol and determines symbol position from the detected symbol position data. Desmond does not disclose pixel data. Claim 6 is believed to be allowable. Claim 26 depends on claim 21 now believed to be allowable thereby making claim 26 allowable.

Regarding claim 7 and 27, the Examiner states that Desmond teaches an information processing system wherein the input data comprises aircraft control surface data (see col. 7, line 64).

The Applicants have amended claim 7 to claim the symbol monitor using detected symbol data from the color detector to determine input positions for a unique symbol position. Claim 7 is now believed to be allowable. Claim 27 depends on claim 21 now believed to be allowable thereby making claim 27 allowable.

Regarding claim 8 and 28, the Examiner states that Desmond teaches an information processing system wherein the derived version is computed using a matrix inversion process (see col. 5, lines 4-9).

The Applicants have amended claim 8 to claim the symbol monitor processing detected symbol data and comparing to the input data. Claim 8 is now

believed to be allowable. Claim 28 depends on claim 21 now believed to be allowable thereby making claim 28 allowable.

Regarding claim 9 and 29, the Examiner states that Desmond teaches an information processing system wherein the second processor compares the input data and the derived version of the input (see col. 12, lines 39-43).

The Applicants have amended claim 9 to claim blanking a symbol is a miscompare occurs. Claim 9 is now believed to be allowable. The Applicants have cancelled claim 29.

Regarding claim 16, the Examiner asserts that Desmond teaches a method of providing integrity checking for a pixilated display device, comprising: receiving input data (Fig. 1, the system input data) by a first processor ((Fig. 1, the combination of items 18, 36, and 50, and 52 constitute the first processor); generating drawing instructions (see col. 9, lines 19-29) for a graphics engine (Fig. 1, item 36); outputting pixel data to a detector (Fig. 1, item 42, see col. 9, lines 63-68, the symbol identifying means is a detector); receiving, by a display (Fig. 1, item 52), at least some of the pixel data over a first channel (Fig. 1, the combination of lines for X, Y, and Z constitute the first channel); receiving over a second channel (Fig. 1, see col. 11, lines 11-15, the combination of lines for X, Y, and Z that are between the CRT and the A/D converters constitute the second channel), by a symbol monitor (Fig. 1, item 26), at least some of the pixel data (Fig. 1, lines X, Y, Z comprise the pixel data); and receiving the input by the symbol monitor (Fig. 1, the system input data).

As discussed in the remarks for claims 1 and 21, Desmond does not disclose a pixilated display system but rather a CRT raster display system. Applicants' invention functions with a pixilated display system. The Applicants have amended claim 16 similar to claims 1 and 21 to properly claim the invention. Claim 16 is now believed to be allowable.

Regarding claim 17, the Examiner states that Desmond teaches generating derived input information based on the pixel data received over the second channel (see col. 11, lines 6-28, where it is deriving input information based on the X and Y data, which is the pixel data received over the second channel).

As discussed above, Desmond does not generate pixel data. Claim 17 is believed to be allowable.

Regarding claim 18, the Examiner states that Desmond teaches comparing the derived input information with the input information (see col. 12, lines 39-43).

Claim 18 depends on claim 17 now believed to be allowable thereby making claim 18 allowable.

Regarding claim 19, the Examiner states that Desmond teaches issuing an error warning if the comparison is not within a predefined threshold (see col. 13, lines 15-17, and see col. 17, lines 32-37, where the preassigned operational tolerance is the predefined threshold).

Claim 19 depends on claim 18 now believed to be allowable thereby making claim 19 allowable.

Regarding claim 20, the Examiner states that Desmond teaches cancelling the drawing instructions if the comparison is not within a predefined threshold (see col. 13, lines 2-5, and see col. 17, lines 32-37).

The Applicants have amended claim 20 to claim identifying a symbol using blue pixel intensity and determining its location. Claim 20 is believed to be allowable.

The Examiner has rejected claims 4, 5, 24, and 25 under 35 U.S.C. 103(a) as being unpatentable over Desmond in view of Bioteau et al. (US 5,335,177) (hereafter, "Bioteau").

Regarding claims 4 and 24, the Examiner asserts that Desmond teaches the limitations of claims 1 and 21 as discussed above, however, Desmond does not teach a system wherein the pixilated display comprises a liquid crystal display.

However, according to the Examiner Bioteau does teach a system for ensuring reliability of data used to pilot an aircraft where the pixilated display comprises a liquid crystal display (see col. 1, lines 17-23).

Therefore, the Examiner believes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Desmond with the liquid crystal display of Bioteau, where the motivation to

combine is to use a standard display device used in piloting systems at the time of the invention.

The Applicants have amended claim 4 to claim the unique identifier is a blue pixel intensity. Desmond is not a pixilated system and cannot perform this function. Bioteau merely discloses a liquid crystal display. Claim 4 is now believed to be allowable. Claim 24 has been amended to claim the symbol generator providing X and Y drawing instructions and a unique identifier. Claim 24 is now believed to be allowable.

Regarding claims 5 and 25, the Examiner states that Desmond teaches the limitation of claims 1 and 21 as discussed above, however, Desmond does not teach a system wherein the pixilated display comprises an information source for a heads-up display.

However, Bioteau does teach a system wherein the pixilated display comprises an information source for a heads-up display (see col. 1, lines 29-35).

Therefore the Examiner believes it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of Desmond with the head-up display of Bioteau, where the motivation to combine is to use a display device that allows the pilot to see the display as well as the view outside simultaneously.

Claim 5 has been amended to claim the color detector detecting and storing blue pixel X and Y positions and intensity level. Claim 5 is now believed to be allowable. Claim 25 has been amended to claim the unique identifier is a blue pixel intensity. Claim 25 is now allowable.

The Examiner has not provided any rejections over the prior art for claims 10-15 and 30-34. Nevertheless, the Applicant has cancelled claims 10-15 and 30-34.

**CONCLUSION**

The Applicants have amended the specifications and the drawings. The Applicants have amended claims 1 - 9, 16 - 18, and 20-28 and cancelled claims 10-15 and 29-34 to overcome the Examiner's rejections. The Applicants have provided remarks concerning the Examiner's rejections under 35 U.S.C. §102(a), §103(a) and §112 first and second paragraphs. It is now believed that the application is in a condition for allowance. In light of the foregoing, reconsideration of the claims is hereby requested, and a Notice of Allowance is earnestly solicited.

Respectfully submitted,



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